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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/733,350

12/12/2003

Makikazu Takehana

118035

7461

25944

7590

06/27/2005

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EXAMINER

EASTHOM, KARL D

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No. 10/733,350	Applicant(s) TAKEHANA ET AL.	
	Examiner Karl D. Easthom	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 8-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/26/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

1. Applicant's election with traverse of Group I, claims 1-7 in the reply filed on 6/15/2005 is acknowledged. The traversal is on the ground(s) that there is no serious burden because the inventions are related. This is not found persuasive because inventions are often related, for example, but at least twice the work is involved in answering arguments, searching, analyzing, etc., and even less amounts of extra work can result in less quality and loss of productivity for examiners which has serious consequences.

The requirement is still deemed proper and is therefore made FINAL.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 4-5, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al. (JP 200-164406), cited by applicant. Claim 1 is disclosed as prior art at Fig. 7 with stacked varistor having inner electrodes 21 and varistor layers sandwiched, terminal electrodes 25-28, and glass layer 21 formed between the varistor body and terminal electrodes electrically connected to the inner electrodes. Or claim 1 is disclosed at Fig. 1, with stacked varistor 1 having inner electrodes 2 and varistor layers sandwiched, terminal electrodes 5, and glass layers either 3 or 4 formed between the varistor body and terminal electrodes electrically connected to the inner electrodes. For claim 2, the glass layers 3 or 4 covers the whole area claimed. In claim 4, the glass layers and terminal electrodes are all formed by baking, see pars. 20-21 of the

machine translation, where diffusion by heat occurs, and some of the glass of each layer must mutually diffuse too, if required to meet the claim. Moreover, the same glass material is used in each layer. In claim 5, the glass frit in the terminal electrode is between 5-15 % and also in the glass layer 3, (and there is also diffusion into the glass layer 4b although the amount is not known). As another alternative to claims 1 and 4, and for claim 7, note that the internal electrodes protrude as they are disclosed as exposed at pars. 21 and 24. Then, note that terminal layer 3 is burned at 900 degrees. This means according to applicant's specification at par. 80 at page 26, that burning above 70 degrees a composition having from 5-15% of the Ag with glass frit, just like that of Yoshida, that a glass layer will form within the glass layer 3. The same process is used as used by applicant, so note that applicant has the burden of proving that layer 3 does not have an extra layer of mostly glass at the varistor surface similar to that of applicant. Consequently, since the electrodes of Yoshida protrude, they too will have the root portions covered with glass due to the same method using the same materials. Also, note, this interpretation is not required to meet the claims at hand given the alternative interpretations noted above. That is applicant uses the term glass layer to mean that it has glass and some conductive particles.

4. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al. (JP 05-006805). Claims 1 and 7 are disclosed at Fig. 1 with stacked varistor having inner electrodes 3 and varistor layers sandwiched, terminal electrodes 4, and glass layer 6 formed between the varistor body and terminal electrodes electrically connected to the inner electrodes as seen. For claim 2 the whole area claimed is

covered. For claim 3 par. 20 indicates a thickness of 100mum which is taken to be .1um. This distance is from the electrode 7 to the front face 2. But this is the distance of layer 6, which is described as uniform at par. 15. For an alternative, see the rejection below. For claim 4, how the layer is formed does not create a distinct product where baking is employed nonetheless and the structure is met. For claim 7, the root portions are seen covered by the glass 6.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (JP 200-164406) or Nakamura et al. (05-006805), in view of Utsumi et al. (4290041). The claimed invention is disclosed as noted above except the palladium principal component for the inner electrodes, which is taken to mean more than half. Silver or its alloy is disclosed at par. 20 of Yoshida for the terminal electrode. Yoshida also discloses an internal electrode of "silver content" at par. 23, and in the next par. 24, speaks of adding Pd to the Ag of silver content. Likewise, Ag and AgPd are disclosed for the claimed electrodes at pars. 10-11 of Nakamura et al. (05-006805). AgPd is disclosed at par. 11 as a 7:3 alloy. Utsumi discloses at col. 6 discloses Pd as a substitute for internal electrodes in a varistor device of ZnO like that of Yoshida, so that it would have been obvious to employ the material since it is suggested to be compatible and Utsumi lists other advantages of the device in general throughout the,

so that Pd is a principal component as compared to some other component, or it is essential, which is what principal means.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (JP 200-164406) or Nakamura et al. (05-006805) in view of Jeong et al.

((2002/0109575)). The claimed invention is disclosed except the thickness of the glass layer. Jeong discloses glass layers 42a at pars. 75 and 79 having much thicker layers to ensure that the device has good insulation, so that the claimed thickness would have been obvious to ensure a thick uniform coat and good insulation. Jeong also discloses a device at Fig. 6 similar to the Yoshida or Nakamura devices, further suggesting the motivation.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl D. Easthom whose telephone number is (571) 272-1989. The examiner can normally be reached on M-Th, 5:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2832

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karl D Easthom  
Primary Examiner  
Art Unit 2832

KDE